M043012
Incoming
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From: "Nicole" <nwobbe@american-stone.com>
To: "Paul Baker" <paulbaker@utah.gov>, "Leslie Heppler" <LHEPPLER@utah.gov>
Date: 1/23/2009 2:00 PM
Subject: Peoa Mine Plan
Attachments: NOIApril282000Amended2272008rev1.doc

Hello Paul and Leslie,

As we discussed here is the revised mine plan. We did modify the acres as we had sent them to you previously with an error in the accounting. Please let me know if you cannot read/open the file and I will bring it over on Monday.

Thank you for all of your help and time yesterday.

Nicole Wobbe-Espinoza
Executive Assistant
4040 South 300 West
Salt Lake City, UT 84107
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M043001Z
TASK 2850
cc: Leslie

Star Stone Quarries, Inc.
Peoa Mine M/043/012

Notice of Intention to Commence Large Mining Operations

Submitted by:
Star Stone Quarries, Inc.
4040 South 300 West
Salt Lake City, UT 84107
Tel. (801) 262-4300
Fax (801) 262-4474

Contents of Peoa Mine (Quarry)
Notice of Intention

Notice of Intention to Commence Large Mining Operations dated April 28, 2000

Attachments:
Maps:

1. Property Boundaries of Surface Ownership
2. Property Ownership
3.1 Existing Surface Features
3.2 Details of Existing Surface Features
4.1 Surface Facilities / Development, 5 years
4.2 Surface Facilities / Development, Ultimate
~~4.3 Proposed Areas for French Drain Rock~~
5.1 Final Reclamation
5.2 Drainage Area for Proposed Pond
6.1 Long Section
6.2 Cross Section
6.3 Cross Section
6.4 Drainage Sections, Drainage through center of developed area
6.5 Drainage Sections, Drainage on east side of developed area
7 Request for Variance
8 Surface Map Revised May 25, 2007

Appendixes

1. Distribution and Description of Soil Types and Soil Analyses
2. Vegetation Survey
3. Reply from Division of Drinking Water
4. De Minimis Letter
5. ~~Application for~~ Conditional Use Permit with Summit County
6. Reclamation Surety Estimate

STAR STONE QUARRIES, INC.
PEOA MINE
NOTICE OF INTENTION TO COMMENCE
LARGE MINING OPERATIONS

State of Utah
Department of Natural Resources
Division of Oil, Gas and Mining
1594 West North Temple Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801
Telephone: (801) 538-5340
Fax: (801) 359-3940

0. Rule R647-4-102- Duration of the Notice of Intention

This Notice of Intention (NOI) is for the duration of this quarrying operation. For planning purposes, the content of this NOI is directed to the first 5-year development and reclamation plan with operations planned to continue beyond five years.

I. Rule R647-4-104 - Operator(s), Surface and Mineral Owners

1. Mine Name: Peoa Quarry
2. Name of Applicant or Company: Star Stone Quarries, Inc.
3. Permanent Address: 4040 South 300 West
   Salt Lake City, Utah 84107
4. Company Representative: Lon Thomas
   President
   4040 South 300 West
   Salt Lake City, Utah 84107
   Telephone (801) 262-4300
   Fax (801) 262-4474
5. Location of Operation: Section 20 Township: IS Range: 5E SLB&M
6. Ownership of the Land Surface: Private (fee)
   Owner: Lon Thomas, Documentation Provided Oct. 6, 1997
7. Owner of record of the minerals to be mined:
   ~~Garff Rogers~~ Bureau of Land Management (BLM)
8. Have the owners been notified in writing: Yes.
9. Does the operator have legal right to enter and conduct mining operations on the land covered by this notice? Yes.

II. Rule R647-4-105 - Maps, Drawings & Photographs

105.1 - Base Map

1. Property boundaries of surface ownership of all lands which are to be affected by

the mining operations: Map # 1.

2. Property ownership of lands bordering the lands to be affected by the mining operations: Map # 2.
3. The route of access to the mining operations from the nearest publicly maintained highway: Map # 1.
4. Streams, roads, buildings, electrical transmission lines or waterways affected by operation: Map # 1; Map # 3.1; Map # 3.2.
5. Known areas, which have been previously impacted by mining or exploration activities within the proposed land affected: Map # 3.1; Map # 3.2.
6. Areas proposed to be developed over the 5-year period of this NOI: Map # 4.I.
7. Areas proposed to be developed over the life of the project or other suitable time period: Map # 4.2
8. ~~Revisions to maps in this section and in the following sections are based on a map plotted November 15, 1999 and received from the Division of Oil, Gas and Mining (DOGM) on January 10, 2000 and a map Plotted December 20, 1999 that came with the DOGM Review of Peoa dated December 16, 1999.~~

105.2 - Surface Facilities Map

1. Existing surface facilities, including but not limited to: Buildings, stationary mining/processing equipment, roads, utilities, power lines, proposed drainage control structures: Map # 3.1, Map # 3.2.
2. The location of topsoil storage areas, overburden/waste dumps: Map # 3.2, Map # 4.1, Map # 4.2.
3. A border clearly outlining the extent of the surface area proposed to be affected by mining operations, and the number of acres proposed to be affected: Map # 4.2.
4. The location of known test borings, pits, or core holes: None.

105.3 - Additional Maps

Quarrying is expected to be ongoing at the end of the current 5-year NOI, therefore reclamation is expected to be somewhat limited.

Reclamation Treatments Map Checklist:

1. Areas of the site to receive various reclamation treatments, shaded or cross hatched to identify which reclamation treatments will be applied. Areas include quarries, roads, proposed drainage improvements or reconstruction, sediment control structures, topsoil storage areas, overburden/waste dumps, ponds. Reclamation treatments may include ripping and broadcast seeding. (~~Marked in green~~ Map # 5.1). This is an area of little disturbance. Regrading, replacing soil, ripping, soil amendment, broadcast seeding. (~~Marked in orange~~ Map # 5.1). This area will have extensive work done on it, but crushing will consume some of the overburden/waste dump, reducing the amount of waste dump needing work at final reclamation). Highwall/bench area to be left at an average slope not greater than 45 degrees and requested for a variance. (~~Marked in red~~ Map # 5.1). See details under appropriate heading.

2. A border clearly outlining the extent of the area to be reclaimed after mining, the number of acres developed, and the number of acres proposed for reclamation: Map # 5. 1.
3. Areas disturbed by this operation which are included in a request for a variance from the reclamation standards: Map # 7.
4. Highwalls which are proposed to remain steeper than 45 degrees and slopes which are proposed to remain steeper than 3 horizontal: 1 vertical: ~~(Marked in red Map # 5.1.~~ No highwalls are proposed to remain steeper than 45 degrees.

III. Rule R647-4-106 - Operation Plan

106.1 - Mineral(s) to be mined: ~~Sandstone /~~ Building Stone / Dolamite

106.2- Type of Operation Conducted:

The quarryies in this operation hasve stone that is at or near the surface with little overburden. A cut is made on a ridgeline or slope to create an excavation which eventually has a highwall. The quarries are expanded as needed to stay in the favorable bed. The favorable bed may be compared to a bedded mineral deposit such as coal. A cut normally is about 10 feet high except where daylighted out to the surface. When a quarry is deepened, successive cuts will be about 10 feet high except where daylighted out to the surface. This helps to provide a nearly level working surface.

A hydraulic excavator is used to extract the stone ~~from~~ and ~~the~~ move imported stone to different areas on the ground. It is then distributed to men on the quarry dump to process. The men use small hammers in conjunction with chisels to split the stone into uniform sizes. A guillotine is used to split harder stone into uniform sizes. After splitting, the men grade the stone and stack it on to pallets. The palletized stone is loaded on to trucks and shipped to our yard. An excavator is used to load some of the thicker stone directly into a dump truck to be hauled to the yard in Salt Lake City for processing there.

A crusher is operated part of the time. To the extent practical, waste rock is crushed and made into a salable product concurrent with operating the mine. Crushing the small rock and rubble greatly reduces the amount of rock that is unusable. This will reduce the area and the impact of the waste dump that will reduce the amount of work needed at final reclamation. Competent rock not suitable for split stone, undersized rock, rock/soil mixtures too rocky for the soil piles, and reject material from splitting stone are crushed for sale as road base.

Undersized rock, rock\soil mixtures, and reject material are all lumped under fine rock.

Crusher feed is loaded into a feed hopper with a loader. The crusher can handle rock pieces up to 8 x 10 inches in size. The feed is screened and crushed. There are three crushed sizes produced; a minus ½ inch size, a ½ to 1 inch size, and a 1 to 3 inch size. These are put into separate stockpiles on the ground. A loader is used to load crushed product into dump trucks for transportation elsewhere. The capacity throughput of the crusher is approximately 25 tons per hours when handling mostly fine material. Throughput drops to about 5 tons per hours when there are minimal fines.

Equipment used at this operation includes: D-8 bulldozer, hydraulic excavator, yard loader, small farm tractor with quick connect forks, track drill, rock crusher, guillotine, two dump trucks.

106.3- Estimated Acreage

Areas of Actual Mining:	3.6
Overburden/Waste Dumps:	5
Ore and Product Stockpiles:	2
Access/Haul Roads	1
Associated On-Site Processing Facilities:	2
Tailings Disposal:	0
Other –	
Equipment Staging Area/Housing/Sales Yard/Processing Area	8
Total Acreage:	21.6

~~Calculations for this section, all maps, and the reclamation surety estimate are based on a reference point near the west property line where development clearly shifts to the east on DOGM's maps plotted August 4, 1998, November 15, 1999 and December 20, 1999. On the map plotted August 4, 1998, the position of the shift line is about 800 feet northwest of the fence along the front of the property. Near this shift line is the corner of the quarry highwall closest to the west property boundary. On the map plotted December 20,1999, the shift line about 600 feet northwest of the fence along the front of the property. On map plotted November 15, 1999, both shift lines are shown. The shift line about 800 feet northwest in the 11.65 acre area and about 600 feet northwest in the 17.51 acre area. The 200 feet of difference in the position of the shift line makes a considerable amount of difference in the area assigned to the yard/storage area as compared to the quarry/dump area.~~

~~The distance from the fence along the front of the property to the shift line the corner of the quarry highwall was paced on January 25, 2000 and found to be approximately 800 feet. Based on this information, the operator used the August 4, 1998 position of the shift line as being correct.~~

~~The following is an estimate of the average acreage to be developed annually. (back calculated from the 5-year plan)~~

~~Areas of actual mining:~~	~~0.60~~
~~Overburden/waste dumps:~~	~~0.44~~
~~Access road:~~	~~0.06~~
~~Soil stockpile:~~	~~0.26~~
~~Total:~~	~~1.36~~

~~The following is an estimate of the planned acreage to be developed over the 5-year period:~~

~~Areas of actual mining:~~	~~3.0~~
~~Overburden/waste dumps:~~	~~2.2~~

Access road:	0.3
Soil stockpiles:	1.3
Total:	6.8

The following is an estimate of planned acreage to be reclaimed over the 5-year period.

Areas of actual mining:	0
Overburden/waste dumps:	0
Access road:	0
Other	0
Total:	0

Developed to date as measured by DOGM:	17.5
Planned development this 5-year NOI:	6.8
Subtotal:	24.3
Less 12 ft road (approved variance):	-1.0
Less area to be permitted with Summit County (Request for variance; see Rule R647-4-112; Includes request for variance to leave the road 20 ft. wide for post mining use)	-10.5
Less quarry highwall and benches left at an average slope not greater than 45 degrees (Request for variance: see Rule R647-4-112)	-2.5
Total needing reclamation if variances approved:	10.3

Areas that will need full reclamation if a Conditional Use Permit is not received from Summit County: (ripping, contouring, soil placement, compost, seed)

Conditional Use Permit with Summit County:	10.0 (excluded exempt road)
Quarry floor:	3.7*
Waste dump tops:	4.5*
Waste dump slopes:	1.6*
Add lighter use. soil storage areas:	1.0
Area that will need reclamation (inc. roads):	20.8
Future development beyond this NOI	1.4
Ultimate reclamation:	22.2

* These figures have been proportioned between the ratio of 20.8 acres and 22.2 acres since a maximum of 20. 8 acres will need to be reclaimed under this 5-year NOI.

Current and proposed development (this NOI):

Quarry floor:	4.0
Quarry highwalls and benches:	1.1
Overburden/waste dumps; top:	5.0
Overburden/waste dumps; slope:	1.7
Access/haul roads:	2.0
Area to be permitted with Summit County:	10.5

~~Total acres developed for this mine (this NOI): 24.3~~

~~Future development beyond this NOI 1.4~~

~~Ultimate development for this mine:~~

~~Overburden/waste dump slopes (w/roads): 2.0~~
~~Overburden/waste dumps; top (w/roads): 5.8~~
~~Quarry floors (w/roads): 4.9~~
~~Quarry highwalls: 2.5 (same as variance)~~
~~Area to be permitted with Summit County: 10.5~~
~~Ultimate development for this mine: 25.7~~

~~Financial calculations are on the Reclamation Surety Estimate. See Appendix # 6~~

106.4 - Nature of material including waste rock/overburden and estimated tonnage

The mined material is dolomite that is used for crushed aggregate. The processed material consists of sandstone that is used as building and decorative stone for exterior and interior walls of buildings; also for patios, floors, fireplaces, rock walls, and many types of lawn decorations. A description of the geologic setting is in rule R647-4-106.8. Every effort is made to maximize the amount of salable rock and minimize the amount of waste.

Thickness of overburden:	1 ft.
Thickness of stone deposit:	100 ft.
Dip angle of stone deposit:	75 degrees
Estimated annual volume of overburden:	500 cubic yards
Estimated annual volume of ore mined:	2000 cubic yards

Overburden/waste description: Overburden is a combination of soil and fine rock overlaying the salable sandstone. Waste includes everything not considered to be salable as building stone or as crushed product. Much of the waste comes from the non-sandstone rocks. These are igneous rocks composed of andesites that have undergone natural decomposition including weathering and alteration. Some waste is a product of handling during quarrying operations when rock breaks into small pieces. Waste also includes rock/subsoil mixtures too rocky for the soil stockpiles. Some waste is used for crusher feed as described in rule R647-4-106.2. Occasionally, coarser rock not suitable for building stone and too coarse to serve as crusher feed is considered waste. The fragment size of material to be placed in the waste dump is up to 24 inches, but typically is minus six inches.

106.5 - Existing soil types, location of plant growth material

Soils information was obtained from the Natural Resources Conservation Service. Three soil types are present on the property: 1) Ayoub cobbly loam, 2 to 15 percent slopes; 2) Ayoub-Dunford-Melling complex, 15 to 30 percent slopes; 3) Ayoub-Dunford-

Melling complex, 30 to 60 percent slopes. A map showing the distribution of the three soil types and a description of the soils is included as Appendix # 1. The map shows the property colored in for reference.

One soil sample was collected from two different locations on the property and combined for analysis. The sample locations are shown on Map # 5. 1. The Soil Test Report was completed by the Utah State University Analytical Labs and is included as Appendix # 1.

A sample of crusher fines and dump fines proposed to supplement the available soils was collected and sent for analyses. The Soil Test Report was completed by the Utah State Analytical Labs and is included as Appendix # 1.

The estimated volume of soil material in the existing piles is shown on Map # 3.2. The total volume from all piles is estimated at ~~1,2008~~,000 yards.

~~Shortfalls in soil required for reclamation will be made up by excavating soil from a borrow area identified as "Soil Material Available" on Map # 4.2.~~

106.6 - Plan for protecting and redepositing existing soils

Thickness of soil to be salvaged and stockpiled: Typically 6-12 inches including topsoil and subsoil. Some areas may yield up to 40 inches of very cobbly soil: Appendix # 1.

~~Area from which new soil material can be salvaged: Map # 4.2.~~

Volume of soil to be stockpiled: Map # 4.2.

~~Three~~ Five topsoil pile~~s~~ and one subsoil pile have been established: Map # 3.2. Salvageable soil over quarries and areas for waste dumps will be added to the topsoil pile or subsoil piles, which ever is most appropriate. Additional stockpiles will be established, if needed. Inactive stockpiles will be revegetated and marked with signs labeled, **"Topsoil Do Not Disturb."** Active stockpiles will not be marked with signs since it is not possible to add to the stockpiles without disturbing them. ~~Areas identified for new soil stockpiles: Map # 4.2.~~

Soil stockpiles will be revegetated with the following listed species recommended by DOGM.

Species.		Lb. Per ac. Pure live seed
Orchardgrass	Paiute	0.5
Yellow Sweetclover	VNS	1
Small Burnet	Delar	1
Thickspike Wheatgrass	Critana	2
Crested Wheatgrass	Ephraim	0.5
		5.0

A total of ~~24.3~~21.6 acres is planned to be developed by the end of this 5-year NOI. The

ultimate development of the property is planned to total ~~25.7~~21.6 acres. ~~About 17.5 acres have been already developed according to the DOGM map of November 15, 1999, leaving 8.2 acres from which soil materials may be available. If the recoverable soil material averages 9 inches thick, about 9,900 yards of soil material may be available.~~

Recovered soil material will be stored at the site shown on Map # 4.2. ~~The stockpile area was measured at 0.7 acre.~~ The soil will be sampled at the time of final reclamation and soil amendments added, if required. Existing soil stockpiles that need to be moved, will be moved to the stockpile location identified on Map # 4.1 and Map # 4.2.

106.7 - Existing vegetative communities to establish revegetation success

Jim Spencer, a graduate student in the Botany Range Department at BYU, was hired to do a vegetation study of the quarry site. Mr. Spencer has related experience, working summers for the US Forest Service doing vegetation studies. His report is attached to this NOI as Appendix # 2.

Two 100 foot long transects of the vegetation were completed before the area was developed; one on the west side and one on the east side: Map # 5.1. Each transect consisted of 20 segments made up of 5 points each covering a 1.5 X 1.5 foot square. Ground cover was measured at each point. The methodology used for this study was a nested frequency quadrant, "pitchfork" as it is called.

The "Nested Frequency of the Peoa Quarry (above)" showed a 16% vegetation cover and the "Nested Frequency of the Peoa Quarry (below)" showed a 23% vegetation cover, for a vegetation ground cover average of 19.5%. Rock averaged 6.5% of the ground cover, litter averaged 44% of the ground cover, and bare ground averaged 30% of the ground cover. Based on this survey, the reclamation standard for revegetation success would be 70% of the 19.5% vegetation ground cover, or 13.6%. See Appendix # 2.

The phrase "vegetation ground cover" is intended to mean the same as basal cover. Vegetation ground cover covers a considerably lower percentage of the surface, than does canopy cover for the same types of vegetation. Therefore, 19.5% vegetation ground cover (or basal cover) is realistic, and 45% to 60% canopy cover is realistic for the same mixture of species.

~~A new vegetation survey will be conducted during June 2000 as required by DOGM. The vegetation survey will be designed to be a canopy cover survey. Results of the survey will be provided to DOGM.~~

106.8 - Depth to groundwater, overburden material & geologic setting

The operation is on a rocky hillside with very little ground above it to produce ground water. A ten-foot deep monitoring trench was completed to quantify the amount of ground water for a future water source. Water flow on July 1, 1998 was measured at five gallons per hour.

A seep near the seasonal waterway at a point located east of the scale house was developed to produce household water for a camp located on site, and for miscellaneous quarry uses. An excavation was made into the embankment to develop the seep. Water was encountered about 6 feet from the surface. A sand point pipe was driven into the embankment to filter and collect water. Water is drained into a tank at the bottom of the excavation. From there, water is pumped to the surface where there is a spigot. A water line was constructed to provide household water to the camp. It was buried about 4 feet deep and is permitted through Summit County.

The groundwater source is protected by railroad ties, which enclose and cover the source pipe and water tank. This prevents domestic animals and wildlife from entering and contaminating the source. Fuel, oil, and other lubricant spills will be cleaned up to prevent them from entering the source. See Rules R647-4-107.1.12 and R647-4-110.4 for further details.

The seep produces an estimated flow of five gallons per hour. Overflow from the seep drains to the north into a constructed impoundment about 6 X 20 feet in size at the surface and about 3 feet deep. A second overflow pond about 6 X 15 feet in size is located to the north across a road. In September 1999, the second overflow pond was dry: See Map # 3.2.

American Stone (now Star Stone) has a right to use water from the seep in accordance with an approved exchange application received from the Division of Water Rights. The exchange application Number 3915 (35-10738) was approved December 15, 1999. The Division of Drinking Water was contacted concerning the use of water at the quarry. The reply from the Division of Drinking Water was favorable. Their reply is included as Appendix # 3.

Sandstone is quarried from the Jurassic Triassic Nugget Sandstone. The Nugget Sandstone is thickly bedded mostly buff colored sandstone at the site of the quarry operation. There are small areas of red colored sandstone, variable buff to red colored sandstone, and sandstone with concentric rings colored by iron oxides. The Nugget Sandstone strikes to the east-northeast and dips north at 75 degrees. All of the salable stone is from the Nugget Sandstone.

The Nugget Sandstone has been widely replaced by intruded Tertiary andesites. The andesites are strongly weathered near the surface, and have decomposed into a thick layer of clays. This is all waste material. Much of the waste identified as fine rock comes from the Tertiary andesites.

106.9 - Location and size of ore and waste stockpiles, tailings and treatment ponds, and discharges

Describe the location and size of any proposed waste/overburden dumps, pit edges. The final size of quarries is expected to be 7.4 acres. The final size of waste dumps is expected to be 7.8 acres, including contained roads. Waste dumps are located north and downhill from the quarry areas. See Map # 4.1, Map # 4.2.

Describe how overburden material will be removed and stockpiled. The waste rock and overburden are pushed over the down hill side of the waste dump. There are no tailings or treatment ponds on the property, and there are no plans to construct tailings or treatment ponds.

There is no effluent discharge from this operation.

IV. R647-4-107 - Operation Practices

During operations, the operator shall conform to the practices listed under this section of the Minerals Rules unless the Division grants a variance in writing. Identify any potentially deleterious materials that may be stored on site (including fuel, oil, processing chemicals, etc.) and describe how they will be handled and stored. There is a 350 gallon above ground diesel fuel tank located within a secondary containment unit. Other hydrocarbons on site normally include one barrel of hydraulic oil, one barrel of motor oil, one case of tube grease and one case of starting fluid. They are stored near the diesel fuel tank. No processing chemicals are used at this operation.

107.1 - Public safety & welfare

A fence is located on the south and west sides of the property. These are the more visible and accessible sides of the property from the adjacent highway. A gate is located at the entrance to the property. The gate is locked when the quarrying operation is inactive.

107.1.12 - Disposal of trash, scrap, and debris

Trash, scrap, and debris generated during active operations are hauled as needed to the Summit County landfill. Trash, scrap, and debris generated during interim and final reclamation will be hauled to the Summit County landfill.

Used oil from servicing of equipment is drained into containers and hauled to the yard at Salt Lake City. There it is combined with used oil from other sources and picked up for recycling.

Diesel, transmission fluid, and oil from small spills onto the ground will be handled according to appropriate regulations. Small spills will be picked up and spread out on the waste dump to allow the contaminants to evaporate from the soil materials for six weeks then turned over for six more weeks until considered passable. If the spills are too large for this to be practical, the contaminated soil materials will be scooped up, placed into drums, and hauled to an approved disposal site.

107.1.115 - Construction of barriers

A berm will be constructed at the top of the quarry highwall where the highwall is adjacent to the storage area and access. The berm will be constructed to meet Mine

Safety and Health Administration (MSHA) standards.

107.2 - Drainages to minimize damage

French drains constructed with clean waste rock from the operation will be installed in the two drainages to slow down water flow and minimize erosion through the active area. The drainages may be diverted a short distance to accommodate the quarrying operation. Clean rock (+ 6-inch) from the operation with a minimum of fines will be used for the trench drains. ~~DOGM will be notified at least one week in advance of the placement of the trench drain rock material. See Map # 4.3.~~

Placement of trench drain rock in the drainage through the center of the developed area will be limited to that portion of the drainage which is not yet been covered with waste dump material. This drainage has steep sided walls and is approximately 20 feet below the more gently sloping areas on either side. The bottom of the drainage will be covered with approximately 3 feet of trench drain rock. Waste dump material will cover the trench drain rock up to the point where the steep sides of the drainage are covered. The topsoil pile will be placed above this level. See Section # 6.4.

Soil material will be excavated from the east drainage before placement of the trench drain rock and be stored in the location indicated on Map # 4.1 and Map # 4.2. The bottom of the drainage will be covered with approximately 3 feet of trench drain rock. A layer of waste dump material will be added first where the area needs to be leveled before placement of the soil. The topsoil pile will be placed above this level. See Section # 6.5.

The boundary of the planned development has been modified to allow placement of the trench drain and dump material in the drainages. This will allow full use of the area planned for the ~~0.7 acre~~ soil stockpile and the new access road. ~~If the increase in size of the boundary causes an increase in the area needing to be bonded, an area of equal size will be subtracted from the boundary of the "soil material available" area of Map # 42. None of this area is planned to be excavated during the term of this 5 year NOI.~~

107.3 - Erosion control & sediment control

Outflow from the developed seep is addressed in Rule R647-4-106.8. Impoundments developed for the seep help to slow down and store storm water traveling down the drainage crossing the center of the property. These have a positive effect of reducing sediment flow onto undeveloped areas.

107.5 - Suitable soils removed & stored

Locations for topsoil and subsoil storage have been addressed in Rules R647-4-106.5 and R647-4-106.6.

107.6 - Concurrent reclamation

No concurrent reclamation is planned during the course of this NOI.

To the extent practical, waste rock is crushed and made into a salable product concurrent with operating the mine. This will reduce the area and the impact of the operation. It will also help to reduce the amount of work needed at final reclamation.

An area of ~~10.5~~11.1 acres on the south side of the developed area is included in ~~an application for~~ a Conditional Use Permit with Summit County. ~~Of the 10.5 acres, 0.5 acre is a portion of the 12-foot wide road variance approved by DOGM. After the Conditional Use Permit is granted, these areas will be proposed for a reclamation bond release. See Rule R64-7-4-110.1, Map # 4,1, Map # 7.~~

V. Rule R647-108 - Hole Plugging Requirements

There are no drill or test holes in connection with this operation that will not be consumed by mining operations.

VI. Rule R647-109 - Impact Statement

1. Potential surface impacts: This operation is located where there are at least five stone quarry operations in the vicinity, including one on the adjacent property to the west side. There are no residences visible from the property. The closest housing development is located in a valley about 1 mile to the east. It is not visible from this operation because of the hill east of the property. The closest communities are Park City about 9 miles southwest, and Peoa about 5 miles drive to the east.
2. The quarrying operations presently encompass approximately ~~17.5~~21.6 total acres on a mountain slope vegetated with grasses, sagebrush, and forbs. There are scattered groves of aspens in the drainage on the east side of the property as well as on the steep north-facing slope of Lost Creek. Surface impact on the surrounding area is predicted to be minor.
3. Subsurface Impact: This is a surface operation. There is no underground quarrying. There is no subsurface impact.

109.1 - Surface and groundwater systems

This is a surface operation on the top of a mountain with a little surface and ground water in the area of the operation.

A seasonal drainage flowing north crosses the central portion of the existing quarry area. It has a small flow, especially during the spring snow melt. There will be little impact on surface water quality during quarrying operations. A seep near this drainage was developed to provide household water, and water for miscellaneous quarry uses. See Rule R647-4-106.8.

A second drainage on the east side of the active operation also flows to the north. It was producing a small flow of water in the fall of 1999. There will be little impact on water quality as the quarry is expanded to the northeast and crosses the drainage.

Reclamation of the developed area is discussed under rule R-647-4-110.2. ~~During post-~~

~~mining use of the property, water from the drainage through the center of the developed area will fill the pond. The drainage area contributing to the pond is approximately 120 undeveloped acres and 10 developed acres. See Map # 5.2.~~

Questions regarding the Source Water Protection Plan were addressed in Rule R647-4-106.8.

French drains will be constructed to slow down storm water drainage to reduce sedimentation downstream. See Rule R647-4-107.2.

109.2 - Wildlife habitat and endangered species

1. Describe the impacts on wildlife habitat associated with this operation: This operation is worked all year except during periods of severe weather. Operations are during daylight hours only. Therefore, wildlife is not affected during the nighttime hours when they are most active.

   There are a few deer that range near this operation. The operation seems to have a negligible effect on them. They hide in the day and graze wherever they please at night. This is summer grazing only. They winter to the south down off the hill.

2. Endangered species or their critical habitats: There are no known endangered species in the area. There will be no impact on endangered species or their critical habitats.

109.3 - Existing soil and plant resources

Existing soil resources for reclamation: The operation is located on a high rocky slope with some salvageable topsoil. It is being stockpiled for later reclamation. In addition, a subsoil stockpile has been established. The waste material that comes from the operations has a fair percentage of fine material that is suitable to sustain vegetation. The suitable material will be spread over developed ground during interim reclamation and be revegetated; or spread at final reclamation and be revegetated. See Rules R647-4-106.5 and R647-4-106.6 for a further discussion.

Some soil materials were not salvaged prior to surface development so there is a loss of those soil materials.

There is some small vegetation that will be disturbed during mining operations. Vegetation will be restored during concurrent reclamation and at the end of mining, at final reclamation, according to regulations.

109.4 - Slope stability, erosion control, air quality, public health & safety

See Rules R-647-4-107 and sub-parts for details.

1. Slope stability: This is a quarry operation in strong rock with the high wall on a good stable angle of 75 degrees coinciding with the bedding plane of the country rock.

The entire length of the excavations is expected to be 1200 feet at mine closure. The length of the excavation during the term of this NOI is expected to be 800 feet. The excavation will have a maximum of 80 feet of highwall at mine closure. The excavation will have a maximum of 20 feet of high wall during the term of this 5-year NOI. The excavation will be designed so that the overall slope of the highwall at the conclusion of mining will not exceed 45 degrees.

2. Erosion control: The operation is on top of a hill with negligible drainage. Erosion is discussed further in Rules R-647-4-107.2 and R647-4-107.3.
3. Air quality. An on-site rock crusher is used on a seasonal basis to screen and crush rock for use as road base. The crusher has a capacity of 25 tons per hour. A De Minimis approval for a small source exemption was received from the Utah Division of Air Quality for a rock crushing and screening permit. See Appendix # 4.
4. Public health and safety. The public may enter the yard area of the property to purchase stone. An American Stone sign is located at the turnoff at the highway. The entrance road from the highway to the gate is paved. The road in the storage/ scale house area is graveled. The public is not allowed to go into the quarry operating area without being accompanied by a company representative. A fence is located on the south and west sides of the property, the sides most visible and accessible from the highway. There is a gate at the entrance to the property. The gate is locked when the quarry is not in operation.

109.5 - Actions proposed to mitigate any of the above impacts

See Rules R-647-4-107 and R647-4-109 for details.

A sample of crusher fines and dump fines was taken from the crusher fines (road base) piles from where the crusher was located in 1999. This is the type of material in addition to soil that is proposed for use in reclamation. The sample was sent to USU Analytical Labs for analyses. Results of the analyses were sent to DOGM on March 8, 2000 along with a cover letter. A duplicate set is included in Appendix # 1. The sample locations are shown on Map # 3.2.

VII. Rule R647-4-110 - Reclamation Plan

110.1 - Current land use and post mining land use

Current or premining land uses: Grazing and wildlife habitat.

List future post-mine land uses proposed: Grazing and wildlife habitat. Build a house to live in near the pond. Develop a commercial storage yard at the south end of the property. The scale house/office and scales will be used in conjunction with the storage yard. The trailers will be used in conjunction with the operation of the ranch.

The operator proposes to remove the area south of the actual mining area from the bonding required under this NOI. ~~An application has been made to Summit County for a Conditional Use Permit for these areas~~. A Conditional Use Permit has been granted by Summit County which includes these areas. The area is being divided into a rock storage and sales yard, a commercial storage area, a personal storage area, and a

camp. See Rule R647-4-112, Map # 4.1, Map # 4.2, Map # 7. A copy of the ~~application for a~~ Conditional Use Permit is attached as Appendix # 5.

The stone storage and sales yard ~~(4.2 acres)~~ is located on the west side of the drainage through the center of the developed area. It has the paved access from the county road. This portion of the property has been graveled with crushed rock from the quarry. It contains the office and scales, and it will continue to be used for storage of palletized stone, and house the fuel tank.

The commercial storage area ~~(3.1 acres)~~ is located to the east side of the drainage through the center of the property. It will be developed at a later time. The developed water source is within this area.

The personal storage area ~~(2.2 acres)~~ is located to the east of the commercial storage area. It contains equipment owned by the property owner not connected with this mining operation.

The camp area (0.5 acre) contains the two mobile homes that have been permitted with Summit County. Summit County holds a reclamation bond of $5,000 to cover the cost of removal of the trailers and reclamation of the camp, (American Stone & Building, Inc.; check No. 21478 dated 7-21-99; made out to Summit County).

A 12 foot width of the access road from the front of the property to Lost Creek has previously been granted a variance from DOGM. This is the same road that provides access to the quarry operations and the camp. As soon as the new road has been approved reclamation on the existing road will begin.

An additional (will become the primary) access road has been required by Summit County as a condition of the approved Conditional Use Permit. It is being requested that the original road variance be transferred to this new access road.

~~The portion of the access road within the applied for Conditional Use Permit is 0.5 acre (acreage not stated in the application).~~

~~The total of the five areas to be permitted with Summit County is 10.5 acres~~

~~4.2 ac. Stone storage and sales yard~~
~~3.1 ac. Commercial storage area~~
~~2.2 ac. Personal storage area~~
~~0.5 ac. Camp area~~
~~0.5 ac. Road access~~
~~10.5 ac. Total~~

If these areas are not ~~permitted with Summit County or~~ granted a variance from reclamation by DOGM, they will be reclaimed in accordance with the same standards as are used on the rest of the property. The areas ~~will be~~ have been bonded with DOGM for reclamation, with the exception of the new access road; however ~~pending receipt of an approved Conditional Use Permit~~the newly requested access road does have a bond posted with Summit County in the amount of $1,530.00 . This excludes the 12 foot wide

road already granted a variance by DOGM.

110.2 - Reclamation of roads, Highwalls, slopes, leach pads, dumps, etc.

Describe how the following features will be reclaimed:

Reclamation plans for pits:

The final elevations and final disposition of and around the pits:

1. The final size of the quarry areas will be approximately ~~7.5~~3.6 acres. Quarry highwalls will cover approximately ~~2.5~~1.0 acres and quarry floors will cover approximately ~~5.0~~2.0 acres. Quarry highwalls will be developed so that the overall angle at closure will not exceed 45 degrees. A variance was approved to not reclaim the highwalls. See Rule R647-4-112. Quarry floors will be reclaimed. The quarry floors will be covered with broken material from the dump and regraded. The dump material contains significant percentages of fines. ~~ripped first. Fine material,~~ Three inches of topsoil~~, and compost~~ will be spread over quarry floors ~~and contoured. Quarry floors and then~~ will be seeded with the approved seed mixture and vegetation established.
2. The final size of the waste dumps will be approximately 7.8 acres. Dump tops will cover approximately 5.8 acres and dump slopes will cover approximately 2.0 acres. Waste dumps will be sloped in the range of 2H: 1 V to 2.5H: 1 V. The regraded slopes will be covered ~~with subsoil/fine rock then~~ with a 3" layer of topsoil. ~~Compost will be added and t~~They will be seeded with the approved seed mixture for revegetation.
3. Impoundment's, pits, and ponds: There will be a small pit at the bottom of the quarry excavation. It will be constructed so that it has an inflow and a spillway. The inflow and spillway will be armored with coarse stone to slow down the flow of water to reduce problems with erosion. ~~The pond will not have a ramp such as a boat ramp. It will be allowed to fill with water seepage to create a small (1.1 acre) pond for aesthetic purposes. The pond will be used to enhance post mining property value~~.

Reclamation plans for drainage's shall include,

1. The reestablishment of a natural drainage pattern which fits in with the upstream, and downstream cross section of existing drainage in the vicinity of the disturbance: See Rules R647-4-107.2 and R647-4-107.3.
2. The reestablishment of a stable channel in the reclaimed reach of channel using the necessary armoring to prevent excessive erosion and downstream sedimentation. The small seasonal waterways will be recontoured and graded with suitable stone to establish drainage with erosion rates comparable to natural erosion.
3. Profiles: Map #5.1. Sections: (long section) Map #6.1, (cross sections) Map # 6.2, Map #6.3. Drainage sections: Map #6.4, Map # 6.5.

Reclamation plans for drill holes and leach pads shall include:

There will be no drill holes or leach pads.

Back filling and Grading:

A 7-yard front end loader will be used to scoop up fine material from the dump. This material will be spread over the rock quarries to prepare them for the soil cover.

An excavator may be used instead of a loader or dozer to reclaim roads on steeper slopes, areas along and near highwalls, and dump slopes. If used, the excavator will bring material from down slope up to and above the excavator level. Slopes on roads will be regraded to approximate the natural slope. Dumps will be regraded to a maximum 50% (2H:1V) slope. Highwalls will not be reconstructed.

A D-8 dozer will be used to re-contour the dumps to a grade modestly steeper than the ~~existing~~ original slope of the hill. After contouring, the salvaged soil mixture will be placed on top and spread out. Where the haulage distance makes using a dozer impractical, a front end loader will be used to spread out the soil mixture. The maximum regraded dump slope will not be greater than 50% (2H:1V). The dumps will be contoured to help stabilize them and help them to retain moisture. ~~Compost will be added and t~~The regraded sloped seeded with the approved seed mixture. See Map #5.1.

110.4 – Surface facilities to be left

The operator is the property owner. The property is also used as a ranch. Roads in existence at the end of mining will be needed to operate the ranch. Facilities include a small camp with two trailer houses, and a small scale with office. They will be used in conjunction with the ranch and for a rock storage area and proposed commercial storage area for part of the property: Map #7. ~~An application for a~~ Conditional Use Permit ~~is being made with~~ has been approved by Summit County. See Rule R647-4-110.1 for details on post mining use. A copy of the ~~application for a~~ Conditional Use Permit is attached as Appendix #5.

In the event development does not occur as proposed in Rule R647-4-110.1, the facilities will be removed and the site reclaimed excepting the roads that ~~have~~s been approved under a variance.

110.4 - Treatment, location and disposition of deleterious materials

1. Describe the nature and extent of any hazardous materials located on-site. Several hydrocarbons are used in this operation. There is a 350 gallon above ground diesel fuel tank located within a secondary containment unit. Other hydrocarbons on site normally include one barrel of hydraulic oil, one barrel of motor oil, one case of tube grease and one case of starting fluid. They are stored near the diesel fuel tank. No processing chemicals are used at this operation.
2. Describe how hazardous materials will be neutralized, removed from the site, or buried on site. The diesel fuel, oil, grease, and starting fluid are used to operate the machinery. At the end of reclamation, any remaining hazardous materials will be removed from the site. If any spills occur during operations or reclamation, the contaminated material will be disposed according to regulations. See Rules R647-4-107 and R647-4-107.1.12.
3. Describe how buildings, foundations, trash and other waste materials will be

disposed of. The office/scale house will continue to be used for post mining purposes. In the event a commercial storage area is not developed for post mining use, the office/scale house and scales will be removed and used at another operation, or torm down and disposed at an approved county landfill. Trash and other manmade waste material will be hauled to the county landfill.

110.5 - Revegetation planting program and topsoil redistribution

1. Soil Material replacement: Topsoil from stockpiles and a nearby onsite borrow area will be scooped up during concurrent and final reclamation and spread on the waste dump and the quarry. ~~Soil materials will be amended with compost. The mixture will be approximately 6" thick.~~ Depending on the distance from the stockpiles, soil materials will be spread with either a dozer or a 7-yard rubber tired front end loader.
2. Seed Bed Preparation: The seedbed will be ripped along the contour to a one-foot depth with the ripper spacing at a maximum of two feet, and left in a very rough condition immediately prior to seeding.
3. Seed Mixture approved by DOGM in the Review dated December 15, 1999, page 2, and revised in the Review dated April 10, 2000, page 4; Rule R647-4-106.7.

Species		lb. Per ac
Wyoming big sagebrush	VNS	0.1
Rocky mountain pensternon	Bandera	1
Orchardgrass	Paiute	2
Yellow Sweetclover	VNS	1
Forage Kochia	Immigrant	1
Saskatoon Serviceberry	VNS	1
Alfalfa	Ladak	1
Intermediate Wheatgrass	Oahe	3
Antelope Bitterbrush	VNS	1
Small Burnet	Delar	1
Thickspike Wheatgrass	Critana	2
Bluebunch Wheatgrass	Secar	2
Basin Wildrye	Trailhead	1
		17.1

Seed will be broadcast at a rate of approximately 17. 1 pounds per acre.

4. The seed will be broadcast in the fall.
5. Fertilization: Fertilizer is not required. Soil materials will be re-analyzed prior to reclamation to assure fertilization is still not needed.
6. Other Revegetation Procedures: None.

VII. (Continued) R647-4-111 - Reclamation Practices

111.1 - Public safety & welfare

See comments under R64 7 -4-107.1 and R64 7 -4-107.1.115.

111.6 - All slopes regraded to stable configuration

We are unable to find anything in the DOGM rules manual under rules R647-4-110 or R647 -4-111 or subparts of these rules which require slopes to be regraded to 3H: 1V or less. Waste dump slopes will be regraded to 2H: 1V or less at final reclamation. See rule R647-4-110.2 for a further discussion.

111. 7 - Highwalls

Highwalls will not be reclaimed. See comments under rule R647-4-112.

111.8 - Roads and Pads

Roads no longer needed for the operation will be reclaimed during interim reclamation or at final reclamation. Roads that will be used during the post mining use of the property will be left with adequate surface drainage structures and in a condition suitable for post mining use.

111.9 - Dams & impoundments left self draining & stable
See comments under rule R647-4-110.2.

111.11- Structures & equipment buried or removed

Surface facilities and affected areas (except the access road and highwall areas granted a variance) will be reclaimed unless approved for further use under a Conditional Use Permit by Summit County. As soon as the permits are granted, copies will be provided to DOGM. See Rule R64 7 -4-110. 1.

111.12 - Topsoil redistribution

Soil materials will be spread a minimum of threesix inches deep ~~and amended with five tons per acre of composted manure~~. Fertilizer will be applied, if required.

VIII. Rule R647-4-112 - Variance

1. Road reclamation request. The operator acknowledges DOGM's granting of a variance for a 12 foot wide road for accessing the property from the Review dated December 15, 1999, page 5.

   ~~The operator requests the access road variance be increased to 20 feet to provide an adequately wide driveway to access the property for post mining use. The operator believes a request for 20 foot wide driveway is reasonable because it will be comparable in width to the width of driveways commonly constructed in the area. This variance is requested under the reclamation standards of Rule R647-4-111.8. The operator wishes to comply with the "condition suitable for continued use" portion of Rule R647-4-111.8.~~

   The operator requests that the above mentioned road variance be transferred to

the new access road. The new access road, which will become the primary access road to Lot 38, is being required by Summit County. The surface owner, who is also the operator, plans to use this road as the primary access road post-mining. The operator also requests that the variance be increased from 12 ft to 20ft.

2. Stone Sales & Storage/Commercial Storage/Personal Use/Camp Area Variance. ~~An application is being made to permit 10.5 acres of the property with Summit County under a Conditional Use Permit.~~ A Conditional Use Permit has been approved by Summit County for 27.2 acres of the property. Please see a description under Rule R647-4-110.1. This area is shown on Map # 7. The operator requests that the same 10.5 acres be exempt under Rules R647-4-110.1, R647-4-110.3, R647-4-111.8, and R647-4-111.11. Surface facilities and affected areas (except the access road width granted a variance and the access road width requested for a variance in Number 1 above) will be reclaimed unless approved for further use by Summit County.

3. Highwall Variance. The operator acknowledges DOGM's granting of a variance from reclamation standards under Rule R647-4-111.7 for ~~2.5~~ 1.0 acres of high wall area that will remain. No additional variance is requested.

   Highwalls will be designed so that the overall slope of highwalls and catch benches together will not exceed 45 degrees. The width of the benches is not planned to exceed 10 feet. The variance exemption from regrading slopes, applying soil material, applying soil amendments, and seeding. The width of the benches will not allow safe access for reclamation under MSHA regulations. Quarry floors will be reclaimed to the base of the lowest highwall. See Map # 7.

4. Pond variance. This question is being addressed due to DOGM's comments from their review of April 10, 2000. No pond will be constructed during the course of this 5-year NOI. If a pond is constructed, it will not occur until the end of the life of the property. Water rights will be obtained at that time if they are available and are required. Information from the Utah Division of Water Rights is that while permits are technically required, the great majority of pond builders in the area do not obtain a permit or water right from the Division of Water Rights and are not being prosecuted. The Division of Water Rights considers the proposed pond to be a very small water impoundment.

   The construction of the pond, if it is built, is so far into the future, it is not realistic to develop a final approved design. That design and approval will occur near mine closure. Therefore, no variance is being requested at this time.

   If the pond is not constructed, the pit bottom will be reclaimed in accordance with standards used on the remainder of the property. See Map # 5.1.

IX. Rule R647-4-113 - Surety

The reclamation surety estimate is attached as Appendix # 6.

We propose to reduce the amount of up front surety reclamation bonding in the manner stated in a letter to DOGM dated February 29, 2000; copy in Appendix # 6. The amount we propose as a reclamation surety estimate is the subtotal of $40,915, which is the amount before adding in the escalation for 5 years at 3.27% per year.

X. SIGNATURE REQUIREMENT

I hereby certify that the foregoing is true and correct.

Signature of Operator/Applicant:

Name	Lon Thomas
Title/Position	President
Date	~~April 28, 2000~~February 27, 2008

Document revised ~~April 28, 2000~~ February 27, 2008
File Name: PeoaNOI.doc